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THE WILSON BULLETIN

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THE WILSON BULLETIN

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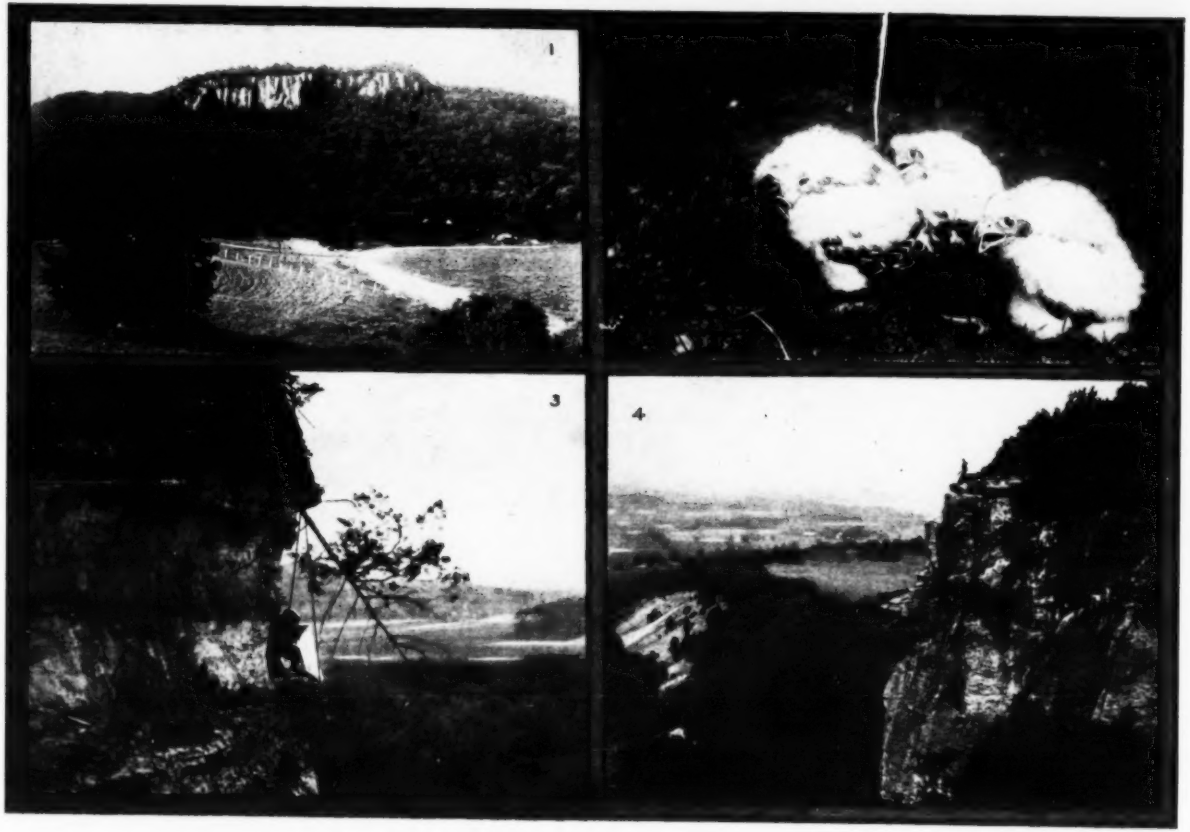
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KEY TO PLATE.

Fig. 1 — Gibralta Rock from the south, Columbia County, Wis.

Fig 2 — Young Duck Hawks, removed from nest.

Fig. 3 — Nesting ledge of Duck Hawk in Sauk County, Wis.

Fig. 4 — Gibralta Rock, showing commanding point in center of picture, where Duck Hawk invariably alighted on thir trips to and from the nest.

THE WILSON BULLETIN

A QUARTERLY JOURNAL OF ORNITHOLOGY

VOL. XXXIII DECEMBER, 1921 NO. 4

OLD SERIES VOL. XXXIII. NEW SERIES VOL. XXVIII

THE NESTING OF THE DUCK HAWK IN SOUTH-CENTRAL WISCONSIN

BY H. L. STODDARD

This splendid falcon (*Falco peregrinus anatum*) is in many respects the most spectacular and thrilling of all our birds, and is as interesting to present-day bird lovers and ornithologists as to the royal falconers of old — for our bird is practically identical with the Peregrine of Europe. By many this bold hunter is considered the nearest approach to the ideal bird from a physical standpoint of any living species, combining beauty, marvelous speed and wing control, with great strength, courage and audacity. The nature of its haunts and eyrie too are in perfect accord. Some of our grandest scenery may be viewed from the ledges where its young are hatched, far up on the face of a rocky precipice. Coming into the world on the slightly sanded rock, without a trace of a nest, and partaking daily of the fresh meat of cleanly killed birds, they have indeed a fitting start for the life to follow.

In regions otherwise suitable, but lacking cliffs, they have been known to nest in the hollow ends of broken-off limbs in lofty trees. As a rule, however, they are so partial to a rocky precipice near a sizable body of water, that the most likely nesting places may be located by a careful study of the Government Topographical Sheets in any well mapped state. And, as ideal nesting locations are few and far between, so also are nesting records in the eastern half of our country.

Comparatively little is known about the nesting of this magnificent falcon in Wisconsin. Kumlein and Hollister

(Birds of Wisconsin, p. 66) give the following information: "Formerly bred at Racine, and has been known to remain at Lake Koshkonong through the summer. . . . We have seen it in summer along the south shore of Lake Superior, where it appeared to be nesting on the rocky ledges."

My own field work has fortunately included some interesting experiences with the Duck Hawk in Wisconsin and the following notes are offered:

On May 20, 1911, an adult female, one addled egg and one downy young, were collected about eight miles below Prairie du Sac, on the Sauk county side of the Wisconsin River, by Mr. Bert Laws and the writer (see Auk, Jan. 1917, p. 64-65). Here for over a mile the sandstone bluffs, forming the western boundary of Sauk Prairie, abut on the river, the perpendicular, beautifully modeled rock faces furnishing an ideal nesting environment for this species. Mr. Laws states that they have nested on one or another of these cliffs for over twenty-five years to his knowledge. Early this spring (1921) he noted a pair frequenting the most easterly of these cliffs, known as Ferry Bluff, almost directly across the river from his home. On April 13th, in a pouring rain, we succeeded in locating their three eggs on a ledge having a northeast exposure, overlooking a big slough and miles of heavy river timber. The female sat very closely, only betraying the location of her treasures when a stone thrown from below, landed on the ledge beside her. A well "white-washed" hole near the top of the cliff, a short distance from the nesting ledge, was the regular roost of the male, and here he sat, framed by the circular opening, when we first approached.

As may be seen by the accompanying photograph (Fig. 1), the ledge was perfectly protected from predatory animals, and we ourselves could only reach it with the aid of ropes from above. Fortunately, however, we could see the eggs from the top of a tall basswood tree that grew out from a loam-covered rock mass well up the cliff.

This pair were quite undemonstrative, though the male would occasionally dart by at tremendous speed while one

was on the nesting ledge. Both birds circled nearby, keeping up their harsh, rasping call, somewhat like the alarm "quack" of a mallard hen, many times magnified. On May 15th, after Mr. W. D. Richardson of Chicago, was through photographing them, the one addled egg and two newly hatched young (one of which had been crushed, probably by the parent) were collected, as well as the adult male, the female being purposely spared in hopes she would again nest in the neighborhood. As is usually the case she was a great deal larger, and appeared to be somewhat slower than her trim, equally handsome mate. The frequency with which addled eggs occur and the mortality of the young, seem to be important factors in preventing an undue increase of this rapacious species.

Assuming that incubation had just begun when the eggs were found, April 13th, they were incubated at least thirty-one days.

Remains of the following species of birds were found from time to time on the nesting ledge, or in expelled pellets beneath, Kingfisher (whole head), Domestic Pigeon, Woodcock (hind quarters and bill), Meadowlark, Red-winged Blackbird (numerous), Robin, Bronzed Grackle, Flicker and young chickens.

On May 31st Mr. Albert Gastrow and the writer found another pair nesting in a great cliff, appropriately named Gibralter Rock, near the town of Okee, in Columbia County, about seventeen miles as the crow flies from the Sauk County locations. Situated in a rich farming country, this impressive bluff rises over four hundred feet above the marsh at its base. The south side has a sheer drop of one hundred and twenty-five feet from the top, crowned with a beautiful grove of pine and cedar, to the steep rock-strewn slope below, which is covered with pine and deciduous trees. Lake Wisconsin lays a mile to the north, with bays cutting in still closer on the east and west, forming the desirable combination of precipice and water.

Here on a short ledge, protected by a shelving rock, were three husky young Duck Hawks, nearly as heavy as their parents, with wing and tail quills just appearing

through their coats of white down. The condition of the young and the nesting site being ideal for our proposed group for the Milwaukee Public Museum, a return trip was made next day, with Mr. George Shrosbree, Chief Taxidermist of the institution, and Mr. E. D. Ochsner of Prairie du Sac, well equipped with ropes and other paraphernalia. Our first move called for the collection of the female, and this pair, whose existence depended on eternal vigilance, were extremely wary and would not come near if they suspected any one was present. They invariably perched upon a commanding point of rock, however, on their trips to and from the nesting ledge. Covering this favored spot with the shotgun, I remained concealed for four hours under a pile of juniper limbs on a nearby ledge before the magnificent bird finally returned and was secured. By this time night was fast approaching so the comparatively easy descent was made to the nesting ledge and the young collected. This spot, so offensive to the nose, pleased the eye, both on account of the beautiful panorama spread below, and the immediate environment. Clumps of flowering Columbine grew on little used parts of the ledge and in nearby crevices, as well as Alumroot, Golden Ragwort and Broad-leafed Panic Grass. Scattered about were remains of Mourning Doves, Blue Jays, Green Heron (whole head and neck) and others. For a time nearly a pint of corn and ground feed proved mystifying, till I happened to think of the crops of domestic poultry! The stomach of the female, later examined, contained the remains of three young chickens.

The eyrie was about twenty-five feet from the top and a hundred from the bottom. These young falcons were without exception the most savage youngsters I ever encountered, biting and clawing at every opportunity, and their harsh screams, similar to those of the adult, were deafening at such close quarters. It is interesting to note, however, that they kept perfectly quiet for hours at a time while their parents were absent on hunting forays, but detected their approach at a great distance and screamed lustily.

On returning a few days later to show the site to Messrs. S. Paul Jones and Warner Taylor, Wilson Club members from Madison, we were surprised and delighted to see the male circling over the Rock in company of another mate, perhaps the widow from Ferry Bluff! Though pirates, and pests to the neighboring farmers without doubt, we could not help hoping that these birds, so inspiring to observe, would nest again on picturesque Gibraltar, probably their home for ages.

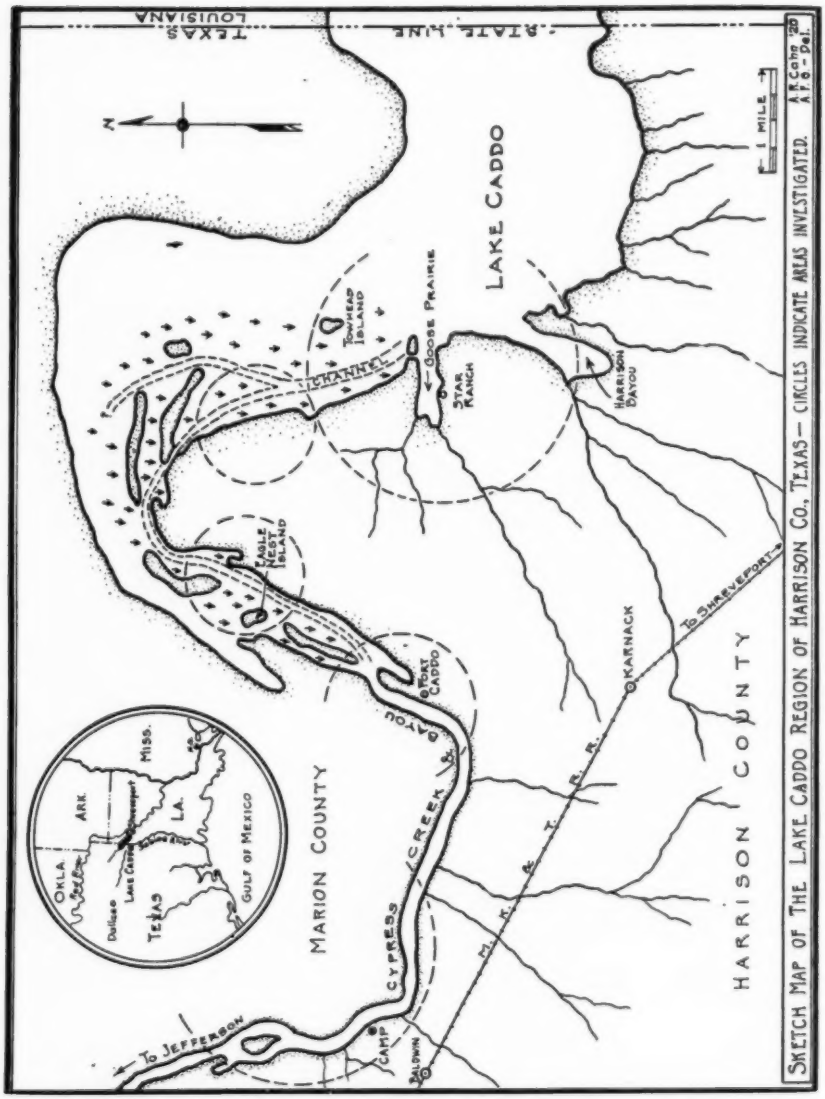
No opportunity presented itself to investigate a report that Duck Hawks nested in the Devil's Lake region, a scant five miles to the north, where the necessary combination of precipice and water also occurs.

Milwaukee, Wis.

SUMMER BIRDS IN THE VICINITY OF LAKE CADDO, HARRISON COUNTY, TEXAS

BY ALVIN R. CAHN

Probably few states in the union can compare with Texas from the point of view of topographic diversity and climatic variations. From the swampy marshes on the gulf coast to the heavily timbered regions, and from the great open, semi-arid plains to the mountainous regions of the trans-Pecos country, there extends practically every possible type of environment one could hope to find within any single state. Such diversity of conditions would lead even the uninitiated to suspect a large biota in point of number of species, and such a suspicion is most certainly verified in fact. Coupled with this environmental diversity is the fact that Texas lies at the focal point of many of the routes taken by our migratory birds, so that it is not surprising that this state should head the avifaunal list with 546 species within its borders. Within this area of 265,780 square miles the species of the east meet many of those of the west, and a certain amount of over-lapping occurs.


TEXAS
LOUISIANA
STATE LINE
LAKE CADDO
MARION COUNTY
HARRISON COUNTY
CHANNEL
TOWHEAD ISLAND
GOOSE PRAIRIE
STAR RANCH
HARRISON BAYOU
EAGLE NEST ISLAND
FORT CADDO
BAYOU
CYPRESS CREEK
KARNACK
To SHREVEPORT
To JEFFERSON
CAMP
BALDWIN
H. E. & W. T. R. R.
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SKETCH MAP OF THE LAKE CADDO REGION OF HARRISON CO., TEXAS — CIRCLES INDICATE AREAS INVESTIGATED.
A. R. Cahn, '20
A. F. & O. Del.

From the ornithological point of view Texas is still virgin territory. Certain regions, such as the Waco district, have been worked up and lists published, yet some of these lists, coming from near the same localities, do not always agree as to the abundance — or even the species — of birds in the region. This divergence is due largely to yearly variations in migratory movements as dependent upon climatic conditions, and to the very definite restriction of paths of migration due to topographic conditions — a restriction drawn much more closely in Texas than in any other region I have seen — as I hope to show in a later paper. By far the largest portion of the state is still untouched in so far as detailed avifaunal studies are concerned, and until these studies are made, nothing will be definitely known as to the exact limit of the ranges of the various species found within this great state. To say that a species "occurs in Texas" is about as vague and valueless as to say another "occurs in Europe." In order to help further the work already done along the lines of investigation of specific regions, the present writer has undertaken avifaunal studies in various parts of the state, the first of which is offered herewith.

In all the ornithological literature which the writer has examined, there has been found not one reference to Lake Caddo. This lake, one of the largest (if not *the* largest) in the south, is, roughly speaking, wishbone shaped, the neck and shoulder of the northern wing lying in Louisiana, the whole of the southern wing and the tip of the northern wing in Texas. It is with this southern wing, some 20 miles in length, separating Marion and Harrison counties, that this paper deals. So far as the writer knows, there is no map published of the region under discussion that even approaches accuracy. To give future workers some idea of the regions investigated by the writer, the accompanying sketch map is offered. Be it understood, however, that the actual conditions are far more complicated than the map seems to indicate!

Lake Caddo lies in a shallow basin, hemmed in by an

almost impenetrable cypress swamp, making the exact outline of the lake somewhat indefinite at best. The shores are so low that any slight rise in the level of the water tends to change entirely the outline of parts of the lake. During the writer's stay in May and June (1920) the heavy rains up country had raised the water so that in many places trees for hundreds of feet beyond the ordinary boundary of the lake stood two feet or more in water. From this it will be seen that a map of the region this week may prove entirely incorrect next month! In many places the lake is shallow, and studded with knotty cypresses (*Taxodium distichum*). Islands are abundant — though they may often be under water — and furnish ideal breeding grounds for herons, water-turkeys, ibis and other seclusion-loving species. Spanish moss (*Dendropogon usneoides*) drapes everything, and the semi-tropical aspect is carried further by the abundance of water moccasins (*Ankistrodon piscivorous*) and alligators (*Alligator mississippiensis*). The characteristic trees of the highlands surrounding the swamp itself are the oaks, with the white (*Quercus alba*), red (*Q. rubra*), Black Jack (*Q. marylandica*) and live (*Q. virginia*) predominating. On many of the ridges the short-leaved pine (*Pinus echinata*) is common.

The Caddo lake region is to-day a bird paradise, and one of the very few spots in all Texas that is suitable as a game refuge. Within its bounds the last remnants of nearly extinct species still cling to existence. If this region could be set aside, it is well within the realm of possibility that such species might still, under adequate protection, be saved for future generations. Unfortunately, however, the concept of conservation in Texas is still beyond the grasp of the public mind, and the sentiment for protection of wild life is almost lacking. It would seem as if every state must learn the lesson of conservation for itself, for it is rare that one state profits by the experience of its neighbors, costly as it may have been. In spite of its great area, the wild life of Texas is going — not rapidly, but steadily.

The writer wishes to express his sincere appreciation to the following people who made possible his visit to Lake Caddo: Mr. and Mrs. W. C. and Dr. and Mrs. J. F. Rosborough of Marshall, Texas, and to Mr. C. J. Rosborough, Jr., who accompanied the writer to the lake, where their knowledge of the region made movement possible.

A list of the summer birds of the region follows:

1. **Pied-billed Grebe.** *Podilymbus podiceps* (Linn.).

Three seen near Star ranch, and two at Eagle Nest Island and Baldwin, the latter accompanied by two young.

2. **Laughing Gull.** *Larus atricilla* Linn.

The one seen over Eagle Nest Island was most likely a straggler from the coastal breeding grounds, having possibly followed up the course of the Sabine or Red river.

3. **Forster's Tern.** *Sterna forsteri* Nutt.

Two seen near Marshall, and several observed over the lake. Probably either stragglers from the coast, or late (non-breeding) migrants.

4. **Common Tern.** *Sterna hirundo* Linn.

Seen over the lake, and on one occasion observed carrying a small fish, indicating that the species may breed in the vicinity of Star ranch.

5. **Anhinga.** *Anhinga anhinga* (Linn.).

A colony composed of between seventy-five and one hundred pairs found breeding on Engle Nest. On June 8 this rookery contained eggs nearly ready to hatch, and young birds about two weeks out of the eggs. Seen commonly at all points of the lake.

6. **Mexican Cormorant.** *Phalacrocorax vigua mexicanus* (Brandt).

Two seen near Eagle Nest Island, but there is no evidence of breeding.

7. **Hooded Merganser.** *Lophodytes cucullatus* (Linn.).

Several individuals of both sexes seen at various points on the lake. It is not unlikely that they breed in the vicinity.

8. **Mallard.** *Anas platyrhynchos* Linn.

Three mallards were seen on the lake. These birds may well have been "cripples" from the preceding winter, as the species does not belong here in the breeding season.

9. **Mottled Duck.** *Anas fulvigula maculosa* (Senn.).

A single pair, flushed in Goose Prairie, is the only evidence at hand concerning this species, which must be considered rare in this section of the state.

10. **Blue-winged Teal.** *Querquedula discors* (Linn.).

About a dozen birds were flushed in various bayous about the

lake and, as both sexes were seen, it is not unlikely that they breed here. These birds were not cripples.

11. **Wood Duck.** *Aix sponsa* (Linn.).

To one familiar with the scarcity of this duck in the northern states, its abundance in Lake Caddo was a revelation. From twelve to over fifty birds were seen daily. Breeds commonly throughout the region, and the general opinion seems to be that, while greatly decreased in numbers over former years, the wood duck is at the present time doing a little better than holding its own. However, large numbers are undoubtedly killed during the hunting seasons in the general duck slaughter which takes place on the lake.

12. **Wood Ibis.** *Mycteria americana* Linn.

A single individual was found in the tangle of cypress and moss of Eagle Nest Island. Very rare in this part of the state.

13. **American Bittern.** *Botaurus lentiginosus* (Montag.).

Two bitterns were found in Goose Prairie, and three near Baldwin.

14. **Least Bittern.** *Ixobrychus exilis* (Gmel.).

Breeding in considerable numbers where suitable rushes afford a nesting site. More common in bays and pockets than along the lake proper.

15. **Ward Heron.** *Ardea herodias wardi* Ridgway.

Seventeen nests were found on Eagle Nest Island. The nests were placed in the tops of cypress trees, the lower branches being occupied by the anhinga nests. The nests all contained young almost ready to fly. These birds were typically *wardi*. Other great blue herons seen around the lake lead the writer to believe that *Ardea herodias herodias* also occurs in the neighborhood, but he is unable at the present time to offer any data.

16. **American Egret.** *Herodias egretta* Gmelin.

At the edge of this same herony, which contained ward herons and anhingas, two nests of this species were found—the last remnant of a colony. Once abundant about Caddo, this species is practically gone from this region. It is highly possible that in other, more inaccessible sections of the vast cypress swamp surrounding the lake there are other isolated remnants, and perhaps also some *Egretta canididissma*, and it might be possible, by jealous guarding of this area, to bring back these nearly exterminated species to the avifauna of Texas.

17. **Louisiana Heron.** *Hydranassa tricolor ruficollis* (Gosse).

Common in all parts of the lake visited. Breeds on Eagle Nest Island.

18. **Little Blue Heron.** *Florida caerulea* Linn.

A small colony breeds on Eagle Nest Island. When this herony was visited the young were for the most part out of the nest. Both adults and young were often seen about the lake.

19. **Green Heron.** *Butorides virescens virescens* Linn.

A common breeding species, seen practically every day.

20. **Black-crowned Night Heron.** *Nycticorax nycticorax naevius* (Bodd.).

Several seen near Fort Caddo and Baldwin, and probably a breeding species.

21. **Yellow-crowned Night Heron.** *Nyctanassa violacea* (Linn.).

A single individual seen on Goose Prairie is the only bird of this species seen.

22. **King Rail.** *Rallus elegans* Aud.

Seen only once, on Goose Prairie, but heard several times about Baldwin. Probably breeding.

23. **Florida Gallinule.** *Gallinula galeata* (Licht.).

Five birds seen on Goose Prairie, where they probably breed.

24. **American Coot.** *Fulica americana* Gmel.

Seen in small numbers when rushy or reedy shores were found, and where the species breeds.

25. **Woodcock.** *Philohela minor* (Gmel.).

Of rather rare occurrence about Lake Caddo, but more common about Marshall. The center of distribution seems to be the "Big Thicket" of San Augustine county to the south, and the birds probably come up through the tangle of the Sabine river bottom.

26. **Wilson's Snipe.** *Gallinago delicata* (Ord.).

One flushed from a field about five miles east of Marshall on May 31. Probably a late straggler, as the birds are not known to occur during the summer, though abundant in the spring and fall.

27. **Upland Plover.** *Bartramia longicauda* (Bechst.).

Two seen near Marshall on May 31. Probably late migrants.

28. **Spotted Sandpiper.** *Actitis macularia* (Linn.).

Only one seen. What it was doing so far south on May 30 is a question.

29. **Killdeer.** *Oxyechus vociferus* (Linn.).

Common summer resident and breeding species. Abundant about Marshall and in the fields beyond the swamps in the vicinity of the lake. Eggs about to hatch on June 1.

30. **Quail.** *Colinus virginianus virginianus* (Linn.).

Abundant in all suitable localities. The quail is still abundant in eastern Texas, but let the slaughter go on as it now is, and eastern Texas will soon find itself in the same predicament as the northern and eastern states regarding this most valuable bird. No one pays the slightest attention to the fact that it feeds on the cotton boll weavil (*Anthonomus grandis*).

31. **Attwater Prairie Chicken.** *Tympanuchus americanus attwateri* (Bend.)

Rare breeding species. Formerly abundant, now nearly gone from this region. One small flock of three was seen near Marshall.

32. **Wild Turkey.** *Meleagris gallopavo silvestris* Vieillot.

Still found some numbers in northeastern Harrison county by those who know its haunts. Mr. W. J. Rosborough of Marshall, got an eighteen pound gobbler during the hunting season of 1919, in the heavily wooded hills about Lake Caddo, and he assures the writer that there are more where this one came from. Resident breeding species.

33. **Mourning Dove.** *Zenaidura macroura carolinensis* (Linn.).

Abundant resident and breeding species throughout the county. Being classed as a game bird, great numbers are killed yearly during the three and a half months' open season. With the increase which occurs yearly in the number of hunters, the present abundance of the mourning dove can not long continue.

34. **Turkey Vulture.** *Cathartes aura septentrionalis* (Linn.).

The common vulture of the region. Seen daily in all regions visited. Breeds on the ground under brush and tangled vines.

35. **Black Vulture.** *Catharista urubu* (Vieill.).

Much less common than the above vulture, only two birds of this species being seen, both near Port Caddo. Resident breeder.

36. **Swallow-tailed Kite.** *Elanoides forficatus* (Linn.).

Rare. Two seen flying low over camp at Baldwin on June 11.

37. **Red-tailed Hawk.** *Buteo borealis borealis* (Gmel.).

Seen and heard daily in all parts of the county visited. Seen carrying food on June 3, indicating possible breeding in the vicinity of Lake Caddo.

38. **Cooper's Hawk.** *Accipiter cooperi* (Bonap.).

Known locally as the "blue darter." Abundant breeding species.

39. **Florida Red-shouldered Hawk.** *Buteo lineatus alleni* Ridgway.

Several seen about Port Caddo, Baldwin, and Star Ranch.

40. **Sparrow Hawk.** *Falco sparverius sparverius* Linn.

Abundant breeding resident. Found more commonly about the edges of the woods and near open fields than elsewhere.

41. **Osprey.** *Pandion haliaëtus carolinensis* (Gmel.).

Considering the wonderful food supply available for this bird, and the abundant nesting sites, it is surprisingly uncommon. Only four fish hawks were seen—three at Baldwin, and one at Eagle Nest Island.

42. **Florida Barred Owl.** *Strix varia alleni* Ridgway.

Heard a number of times about Goose Prairie and elsewhere, but seen only once, near Port Caddo. Common breeding species.

43. **Screech Owl.** *Otus asio asio* (Linn.).

Not seen, but heard at Star Ranch and Port Caddo. Said to be common, and undoubtedly breeds throughout the region.

44. **Great Horned Owl.** *Bubo virginianus virginianus* (Gmelin).

Common breeding species about the heavy timber, especially about Baldwin and Port Caddo.

45. **Yellow-billed Cuckoo.** *Coccyzus americanus americanus* (Linn.).

The only species of cuckoo seen. Fairly common about Marshall; two near Star Ranch, and heard in numerous places. Old cuckoo nest found near Baldwin.

46. **Kingfisher.** *Ceryl alcyon* (Linn.).

Common in some places about the lake, but not as abundant as might be expected considering the abundance of food. However, there are but few available nesting sites near the lake, which may account for the few seen during the breeding season.

47. **Southern Hairy Woodpecker.** *Dryobates villosus auduboni* (Swain.)

Common breeding species, seen many times.

48. **Southern Downy Woodpecker.** *Dryobates pubescens pubescens* (Linn.).

Several seen near Marshall, and two near Star Ranch. Fairly common breeding species.

49. **Pileated Woodpecker.** *Phlœotomus pileatus pileatus* (Linn.).

Still found in some numbers about the lake, but is still on the decline in other localities in the county. The heavy timber about the lake offers a good protection to the species, and it is safe here for some time to come.

50. **Red-headed Woodpecker.** *Melanerpes erythrocephalus* (Linn.).

A common breeding species about the woodlots; not common about the lake.

51. **Red-bellied Woodpecker.** *Centurus carolinus* (Linn.).

Two seen near Marshall, and none about the lake.

52. **Flicker.** *Colaptes auratus auratus* (Linn.)

Common breeding species near Marshall, and seen several times at Star Ranch.

53. **Chuck-will's-widow.** *Antrostomus carolinensis* (Gmel.).

Never seen, but heard night after night at all points on the lake. A common breeding species.

54. **Whip-poor-will.** *Antrostomus vociferus vociferus* (Wils.).

One seen at Star Ranch, but the species was heard calling nightly at all points on the lake visited. The preceding species was heard more commonly about Port Caddo, while the whip-poor-will predominated at Star Ranch and Baldwin.

55. **Nighthawk.** *Chordeiles virginianus* (Gmel.).

The writer is unable to say whether this nighthawk, seen several times over Marshall and quite frequently about Port Caddo, is *C. virginianus virginianus* or *C. virginianus chapmani*, as he was unable to collect any specimens for identification.

56. **Chimney Swift.** *Chætura pelagica* (Linn.).

Abundant about Marshall, and about the negro cabins throughout the region. Breeding in the chimney of the ranch house at Star Ranch.

57. **Ruby-throated Hummingbird.** *Archilocus colubris* (Linn.).

Seen several times about the flower gardens in Marshall, and once at Port Caddo.

58. **Kingbird.** *Tyrannus tyrannus* (Linn.).

Common about Marshall; less so near the lake. Nest and eggs found at Star Ranch.

59. **Crested Flycatcher.** *Myiarchus crinitus* (Linn.).

One seen at Jefferson (Marion county), just over the Harrison county line, at the northwest end of the lake.

60. **Phœbe.** *Sayornis phœbe* (Lath.).

Common breeding species about Marshall and the cabins in that vicinity. Nesting near Star Ranch.

61. **Wood Pewee.** *Myiochanes virens* (Linn.).

Found breeding in the open woods near Star Ranch. More common in the woodlots about Marshall.

62. **Blue Jay.** *Cyanocitta cristata cristata* (Linn.).

An abundant—and noisy—breeding species throughout the region, though less common about the lake than elsewhere.

63. **Crow.** *Corvus brachyrhynchos brachyrhynchos* Brehm.

Common breeding species throughout the region.

64. **Cowbird.** *Molothrus ater ater* (Bodd.).

Rather common breeding species, eggs having been found in one case in the nest of the Prothonotary warbler.

65. **Red-winged Blackbird.** *Agelaius phœniceus phœniceus* (Linn.).

Common breeder, though apparently rather local in distribution. Lack of good breeding grounds explains the scarcity to a considerable extent. Nesting on Tow-head Island.

66. **Meadowlark.** *Sturnella magna magna* (Linn.).

Rather common about Marshall, but wanting from the immediate vicinity of the lake. The writer could get no evidence of any subspecies in the vicinity, though he believes it possible that *S. neglecta* may also occur in the region. A breeding species.

67. **Orchard Oriole.** *Icterus spurius* (Linn.).

Seen in numbers about Marshall. At Star Ranch a nest containing eggs was found in a young cypress tree, fully three hundred yards from the nearest shore.

68. **Baltimore Oriole.** *Icterus galbula* (Linn.).

Apparently not common. An old nest was found at the outskirts of Marshall, but no birds were seen.

69. **Bronzed Grackle.** *Quiscalus quiscula æneus* (Ridgw.).

Common about the smaller towns and in the outskirts of Marshall. Not seen at the lake. Breeding in oak trees.

70. **English Sparrow.** *Passer domesticus* (Linn.).

Abundant everywhere about the towns and negro houses.

71. **Lark Sparrow.** *Chondestes grammacus grammacus* (Say.).

Rather common about Marshall, but not seen about the lake. Nest and eggs found near Marshall June 2.

72. **Chipping Sparrow.** *Spizella passerina passerina* (Bechstein).

Several seen at Marshall and Star Ranch, where a nest with young was found. Breeds in high bushes.

73. **Field Sparrow.** *Spizella pusilla pusilla* (Wilson).

In song in the fields about Marshall and near—but not along—the lake; not very common, though breeding.

74. **Cardinal.** *Cardinalis cardinalis cardinalis* (Linn.).

Abundant breeding species throughout the region.

75. **Indigo Bunting.** *Cyanospiza cyanea* (Linn.)

Fairly common throughout the lake region. Nesting on the main land near Eagle Nest Island.

76. **Scarlet Tanager.** *Piranga erythromelas* Vieill.

A single male seen at Marshall June 2; may have been a straggler or late migrant.

77. **Summer Tanager.** *Piranga rubra rubra* (Linn.).

A pair nesting in the woods at Star Ranch is the only evidence at hand of the presence of these birds.

78. **Purple Martin.** *Progne subis subis* (Linn.).

Common breeding species throughout the region. Nests near the lake in houses put out by the negros.

79. **Bank Swallow.** *Riparia riparia* (Linn.).

Several colonies found near Marshall. Common where conditions are favorable.

80. **White-rumped Shrike.** *Lanius ludovicianus excubitorides* Swains.

Three seen near Marshall. Grasshoppers stuck on barbed wire fences gave ample evidence of the presence of these birds.

81. **Red-eyed Vireo.** *Vircosylva olivacea* (Linn.).

Seen only occasionally, but heard constantly at Star Ranch. Nest and young found June 9.

82. **Warbling Vireo.** *Vircosylva gilva gilva* (Vieill.).

Less common than the preceding species, but seen and heard several times at Star Ranch and Baldwin.

83. **White-eyed Vireo.** *Vireo griseus griseus* (Bodd.).

Seen twice at Port Caddo. In song, and probably breeding.

84. **Black and White Warbler.** *Mniotilta varia* (Linn.).

Seen at Baldwin, carrying a caterpillar, but no nest was found.

85. **Prothonotary Warbler** *Protonotaria citrea* (Bodd.).

Abundant in the extreme everywhere about the lake. Nesting in holes in trees and rotten stumps. Three nests containing five eggs were found, though the normal number was but four. Probably several hundred individuals of this glorious warbler were seen or heard.

86. **Parula Warbler.** *Compsothlypis americana usneæ* Brewster.

Common all about the lake, where it was probably nesting, though not nearly as abundant as the Prothonotary warbler.

87. **Pine Warbler.** *Dendroica vigorsi* (Aud.).

Seen several times about Marshall in a good stand of young pines. No sign of its presence in cypress about the lake.

88. **Yellow-breasted Chat.** *Icteria virens virens* (Linn.).

Common breeding species near Marshall and Port Caddo.

89. **Mockingbird.** *Mimus polyglottos polyglottos* (Linn.).

Abundant everywhere except in the immediate vicinity of the lake. First brood of young out of nest before May 28, as young birds out of the nest were frequently seen about Marshall.

90. **Catbird.** *Dumetella carolinensis* (Linn.).

Several seen near Jefferson at the north end of the lake, but there was no evidence of breeding.

91. **Brown Thrasher.** *Toxostoma rufum* (Linn.).

Several seen and heard in full song near Port Caddo and Baldwin, and quite common about Marshall. No breeding evidence.

92. **Carolina Wren.** *Thryothorus ludovicianus ludovicianus* (Lath.).

Seen about Jefferson and Marshall; one specimen at each place.

93. **Bewick's Wren.** *Thryomanes bewicki bewicki* (Aud.).

A single bird of this species from Port Caddo.

94. **White-breasted Nuthatch.** *Sitta carolinensis carolinensis* Lath.

Several seen, both about Marshall and near the lake. Probably more common in the pine woods than in cypress territory.

95. **Tufted Titmouse.** *Bœolophus bicolor* (Linn.).

Not uncommon as a breeding species near Marshall and about the lake. Nesting in holes in dead stubs, and often driving out bluebirds and chickadees which had previous possession.

96. **Plumbeous Chickadee.** *Penthestes carolinensis agilis* Senn.

A common breeding species throughout the region. Nesting near Star Ranch and Port Caddo.

97. **Blue-gray Gnatcatcher.** *Polioptila cærulea cærulea* (Linn.).

Several seen and, near Jefferson, a pair was found working on a nest.

98. **Wood Thrush.** *Hylocichla mustelina* (Gmel.)

Seen only once near Baldwin, but the song was heard repeatedly at points along the lake.

99. **Robin.** *Planesticus migratorius migratorius* (Linn.).

Rare in summer in this region, though occasionally a breeding species. Two old nests were seen at Marshall.

100. **Bluebird.** *Sialia sialis sialis* (Linn.).

A common breeding species about the towns and fields, but not common about the lake. One nest in a cypress, 150 yards from shore.

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November 10, 1920.

COMPARATIVE PERIODS OF NESTLING LIFE OF SOME NORTH AMERICAN NIDICOLÆ

BY FRANK L. BURNS

[CONTINUED FROM JUNE ISSUE]

CORVIDÆ:

American Magpie, 22 days (Wheelock, Bds. Calif., 387.)

Blue Jay, 20-21 days (Burns Ms.; Knight, Bds. Me., 387.)

California Jay, 18 days (Bendire, Life Hist., ii, 376.)

Canada Jay, about 15 days (Warren, Auk, xvi, 19.)

American Raven, about 28-30 days (Wheelock, Bds. Calif., 407; Bendire, Life Hist., ii, 399.)

Northern Raven, about 30-35 days (Harlow, Cassinia, xiv, 11; Eifrig, Auk, xxii, 312.)

American Crow, about 28 days (Redfield, Bd.-Lore, xi, 115; Knight, Bds. Me., 335; Redfield Ms.)

California Crow, 25 days (Wheelock, Bds. Calif., 410.)

Fish Crow, about 21 days (Bendire, Life Hist., ii, 418.)

Clark's Nutcracker, about 18 days (Bendire, Ib., 423); 17-21 days (Bradbury, Condor, xix, 150); 28 days (Skinner, Ib., xviii, 64.)

Pinon Jay, 21-22 days (Bendire, Life Hist., ii, 326; Wheelock, Bds. Calif., 495.)

STURNIDÆ:

Starling, at least 15 days (Allen, Bd.-Lore, xiv, 112); 21 to 22 days (Brock, Zoölogist, 1910, 117.)

ICTERIDÆ:

Bobolink, 8 days (Otto, Bd.-Lore, xxi, 179-180); 10-14 days Eaton, Bds. N. Y., 2, 224.)

Cowbird, 10-12 days (Knight, Bds. Me., 343; Ferry Ms.; Abbott, Bd.-Lore, xi, 149; Pierson, Ib., xviii, 128.)

Yellow-headed Blackbird, about 12 days (Roberts, Bd.-Lore, xiv, 252.)

Red-winged Blackbird, 11 and 14 days (Herrick, Home Life of Wild Birds, 12 and 21.)

San Diego Red-winged Blackbird, more than 12 days (Wheelock, Bds. Calif., 480.)

Meadowlark, 10-12 days (Knight, Bds. Me., 349; Wheelock, Nestlings of Forest and Marsh, 25.)

Western Meadowlark, 10-12 days (Saunders, Condor, xvi, 136; Wheelock, Bds. Calif., 513.)

Arizona Hooded Oriole, 14 days (Wheelock, Ib., 519.)

Baltimore Oriole, 15-18 days (Knight, Bds. Me., 353.)

Bullock's Oriole, 15 days (Knight, Bds. Me., 354.)

Rusty Blackbird, 16 days (Bendire, Life Hist., ii, 492); 11 days, flying 13 days (Kinnard, Auk, xxxvii, 421.)

Brewer's Blackbird, 16 days (Bendire, Ib., 496.)

Purple Grackle, 18 days (Bendire, Ib., 499); about 11 or 12 days (Clise, Bd-Lore, xx, 378.)

Bronzed Grackle, about 34 days (Cameron, Auk, xxiv, 401.)

FRINGILLIDÆ:

Evening Grosbeak, more than 16 days (Fleming, Auk, xx, 214.)

Western Evening Grosbeak, 15 days (Wheelock, Bds. Calif., 525.)

Pine Grosbeak, 20 days (Knight, Bds. Me., 368.)

Purple Finch, 14 days (Knight, Ib., 375.)

House Finch, 14 days (Keeler, Zoe, i, 176; Bergtold, Auk, xxx, 58; Osterhout, Ool., xxxv, 57.)

Gray-crowned Rosy Finch, 21 days (Wheelock, Bds. Calif., 211.)

American Goldfinch, 15-16 days (Norton, J.M.O.C., v, 46; Knight, Bds. Me., 388; Bruce, Auk, xv, 243); about 18 days (Beebe, Bd.-Lore, vii, 190.)

California Goldfinch, nearly 21 days (Cookman, Ool., 28.)

Snow Bunting, less than 14 days (Ekblaw, Wils. Bul., 107, 43.)

English Sparrow, 13-16 days (Knight, Bds. Me., 393); about 7 days (Chapman, Bds. E. N. A., rev. ed., 68.)

Redpoll, about 11 days (Dice, Condor, xx, 131.)

Vesper Sparrow, 13-16 days (Knight, Bds. Me., 401); 8 days (Perry, Auk, xxxv, 316.)

Western Vesper Sparrow, 8-10 days (Wheelock, Bds. Calif., 214.)

Savannah Sparrow, 14 days (Knight, Bds. Me., 407.)

Bryant's Sparrow, 10 days (Wheelock, Bds. Calif., 217.)

Lark Sparrow, 10 days (Wheelock, Ib., 222.)

White-throated Sparrow, 14 days (Knight, Bds. Me., 418.)

Chipping Sparrow, 10-12 days (Knight, Ib.; Burns Ms.)

Field Sparrow, 10-11 days (Burns Ms.)

Slate-colored Junco, 12 days (Eliot, Jr., Ms.)

Pink-sided Junco, about 14 days (Skinner, Condor, xxii, 168.)

Song Sparrow, 11 days (Link Ms.; Kuser, Bd.-Lore, xiv, 350.)

Merrill's Song Sparrow, 14 to 16 days (Rust, Condor, xxi, 148.)

Swamp Sparrow, 13 or 14 days (Knight, Bds. Me., 434.)

Towhee, 9 or 10 days (Heil, Bd.-Lore, xi, 158.)

Green-tailed Towhee, 10-12 days (Wheelock, Bds. Calif., 252.)

Cardinal, 8 days (Burns Ms.; Eaton, Auk, xx, 56); 9 days (Harvey, Ib., xx, 56); about 10 days (Steele, Bd.-Lore, xviii, 292.)

Western Blue Grosbeak, more than 10 days (Wheelock, Bds. Calif., 498.)

Rose-breasted Grosbeak, 9 days (Allen, Auk, xxxiii, 53); about 12 days (Davidson, Ib., vi, 191.)

Black-headed Grosbeak, less than 14 days (Wheelock, Bds. Calif., 255.)

Indigo Bunting, 9 days (Cleveland, Bd-Lore, v, 87; Burns Ms.)

Lazuli Bunting, 10 days (Finley, Condor, viii, 10.)

Dickcissel, 9 or 10 days (Gross, Auk, xxxviii, 19.)

TANAGRIDÆ:

Louisiana Tanager, 9 days (Head, Am. Orn., Bd. Mag., 3, 13.)

HIRUNDINDÆ:

Purple Martin, 24-28 days (Jacobs, The Story of a Martin Colony, 15.)

Cliff Swallow, 16 or 17 days (Knight, Bds. Me., 454); about 18 days (Wentworth, Ool., xvi, 66); 21-24 days (Vietor, Bd-Lore, xiv, 152.)

Barn Swallow, 14 days (Wheelock, Bds. Calif., 502; Burns Ms.; Kouwenhoven, Bd.-Lore, xvi, 463.)

Tree Swallow, about 16-17 days (Knight, Bds. Me., 459; Hunt, Bd.-Lore, vi, 93.)

BOMBYCILLIDÆ:

Cedar Waxwing, 12-14 days (Herrick, Pop. Sci. Mo., 77, 28; also Home Life of Wild Birds, 18); 16-18 days (Knight, Bds. Me., 467; Saunders, Auk, xxviii, 327; 12 days (Ferry Ms.)

Phainopepla, 20 days (Myers, Condor, x, 72.)

LANIIDÆ:

Loggerhead Shrike, 14-15 days (McKennon, Ms.)

Migrant Shrike, 18-20 days (Knight, Bds. Me., 472.)

VIRIONIDÆ:

Red-eyed Vireo, 12 days (Burns Ms.); 11-13 days (Herrick, Bd.-Lore, vi, 113; Perkins, Ib., xii, 206; Stephens, Bul. Labr. Nat. Hist. State Uni. Iowa, vii, 3, 25.)

Philadelphia Vireo, 13 days (Lewis, Auk, xxxviii, 192.)

Western Warbling Vireo, 15 days (Rust, Condor, xxii, 94.)

Yellow-throated Vireo, 11 days (Herrick, Home Life of Wild Birds, 69); about 12 or 14 days (Hutchins, Bd.-Lore, iv, 120.)

Hutton's Vireo, 16 days (Van Fleet, Condor, xxi, 164.)

MNIOTILTIDÆ:

Black and White Warbler, 8 days (Stanwood, J. M. O. S., xiii, 63); 10 days (Johnson, Ib., vii, 41); 11 days (Bartsch, Osprey, v, 90); about 11-12 days (Williams, Bd.-Lore, vii, 172.)

Worm-eating Warbler, 10 days (Burns, Wils. Bul., 37, 96, and Bd.-Lore, vii, 139.)

Blue-winged Warbler, 8 days (Burns, in Chapman's Warblers of N. A., 69); 9 days (Wright, Auk, xxvi, 345.)

Brewster's Warbler, 8-9 days (Faxon, Auk, xxxiv, 482, and Memoirs of the Mus. Comp. Zoöl., xl, 2, 60.)

Golden-winged Warbler, 9 days (Crosby, Bd.-Lore, xiv, 146); 10 days (Jacobs, Gleanings, iii, 22.)

Nashville Warbler, 10-11 days (Stanwood, J. M. O. S., xii, 29, also Bluebird, vi, 244; Knight, J. M. O. S., viii, 10, and Bds. Me., 493.)

Yellow Warbler, 9 days (Bigglestone, Wils. Bul., 83, 49); 11-15 days (Knight, Bds. Me., 503.)

Myrtle Warbler, 8 days (Chamberlain quoting Banks, B. N. O. C., viii, 121); 12-14 days (Knight, Bds. Me., 510.

Audubon's Warbler, 14 days (Wheelock, Bds. Calif., 540.)

Magnolia Warbler, 10 days (Stanwood, Auk, xxvii, 389.)

Chestnut-sided Warbler, 10-11 days (Steirle, Ool.) 12 days (Willard, Ool., xxviii, 91.)

Bay-breasted Warbler, 11-12 days (Stanwood, J. M. O. S., xi, 107.)

Black-throated Green Warbler, 10 days (Stanwood, Auk, xxvii, 289.)

Kirtland's Warbler, 12 or 13 days (Wood in Chapman's Warblers of N. A., 207.)

Yellow Palm Warbler, about 12 days (Knight, Bds. Me., 542.)

Prairie Warbler, about 10 days (Daniel, Osprey, v, 118.)

Oven-bird, 8 days (Stanwood, J. M. O. S., xiii, 19); 12 days (Burns Ms.)

Kentucky Warbler, 8 days (Burns in Chapman's Warblers of N. A., 238.)

Mourning Warbler, more than 7 days (Faxon, Auk, vi, 104.)

MacGillivray's Warbler, 9 days (Wyte, Condor, xviii, 123; Wheelock, Bds. Calif., 546.)

Maryland Yellow-throat, 9 or 10 days (Redfield, Bd.-Lore, xiii, 195.)

Yellow-breasted Chat, not more than 11 days (Hitchcock, Bd.-Lore, xiv, 355.)

Long-tailed Chat, more than 8 days (Wheelock, Bds. Calif., 551.)

American Redstart, 12-14 days (Knight, Bds. Me., 575; Kohler, Ool., 27, 128.)

MIMIDÆ:

Mockingbird, 8 days (Finklea and Morris, Bd.-Lore, xv, 308); 9 and 10 days (MacKennon Ms.); 10 days (Daniel, Wils. Bul., 39, 71); 10-12 days (Baldwin, Bd.-Lore, iii, 191.)

Catbird, 9-10 days (Herrick, Home Life, 77 and 79; Verrill, Auk, x, 304); 10 days (Bartsch, Osprey, iv, 149; Shufeldt, Auk, x, 304; Redfield Ms.); about 12 days (Gabrielson, Wils. Bul., 79, 65.)

Brown Thrasher, 10 days (Wheelock, Nestlings Forest and Marsh, 232); 11 days (Gabrielson, Wils. Bul., 79, 85; Ferry Ms.);

10-12 days (Heil, Bd.-Lore, x, 103.)

Curve-billed Thrasher, 12 days (Clark, Auk, xxi, 216.)

California Thrasher, 12-14 days (Wheelock, Bds. Calif., 271.)

Crissal Thrasher, 11-12 days (Wheelock, Ib., 276.)

TROGLODYTIDÆ:

Carolina Wren, at least 10 days (Van Gilluwee, Bd.-Lore, xii, 150.)

Bewick's Wren, 14 days (Wiley Ms.)

House Wren, 14 days (Knight, Bds. Me., 588; Bayles, Auk, xxxiv, 90); 15 days (Burns Ms.); 17 days (Sherman, Wils. Bul., 95, 94.)

Western House Wren 16 days (Wheelock, Bds. Calif., 287.)

Alaska Wren, 22 days (Heath, Condor, xxii, 55.)

Tule Wren, 12 days (Wheelock, Bds., Calif., 292.)

CERTHIIDÆ:

Brown Creeper, 13 or 14 days (Tyler, Auk, xxxi, 50.)

Sierra Creeper, 15 days (Wheelock, Bds. Calif., 296)

SITTIDÆ:

Red-breasted Nuthatch, 14 days (Moore, Ool., 23, 154); more than 14 days (Shaw, Bd.-Lore, xviii, 166.)

Rocky Mountain Nuthatch, more than 11 days (Richards, Condor, x, 194.)

PARIDÆ:

Plain Titmouse, 16 days (Wheelock, Bds. Calif., 350.)

Chickadee, 13-14 days (Knight, Bds. Me., 607; Redfield Ms.; Forbush, Bd.-Lore, xiv, 373); 14-15 days (Stanwood, J. M. O. S., xiii, 28); 18 days (Link Ms.)

Mountain Chickadee, nearly 21 days (Wheelock, Bds. Calif., 353.)

Verdin, 21 days (Wheelock, Ib., 557.)

CHAMAEIDÆ:

Wren-tit, 16 days (Newberry, Condor, xviii, 65.)

SILVIIDÆ:

Ruby-crowned Kinglet, 8 days (Head, Bd.-Lore, v, 53.)

Western Gnatcatcher, at least 9 days (Merriam, Auk, xiii, 124.)

TURDIDÆ:

Wood Thrush, 10 days (Ferry Ms.; Johnson, Osprey, iv, 18); 13 days (Pierson Ms.; Burns Ms.); 14 days (Judson, Bd-Lore, xviii, 213.)

Wilson's Thrush, 10 days (Herrick, Home Life, 12.)

Russet-backed Thrush, about 14 days (Atkinson, Ool., xvi, 180.)

Olive-backed Thrush, 10-12 days (Stanwood, Wils. Bul, 83, 448, and 84, 121.)

Hermit Thrush, 10 days (McClintock, Auk, xxvii, 417); 10-12

days (Stanwood, Wils. Bul., 95, 64, also Bd.-Lore, xii, 103, and Auk, xxvii, 418); 12 days (Perry, Auk, xxxv, 321.)

American Robin, 11-12 days (Herrick, Home Life, 40 and 47); 12 days (Redfield Ms.; Stanwood, Home Progress, 5, 310); 12-13 days (Tyler, Auk, xxx, 395 and 398); 13 days (Gillette, Bd.-Lore, viii, 129; Judson, Ib., xvii, 213); 14 days (Howe, Auk, xv, 165; Chapman, Bds. E. N. A., rev. ed., 68.)

Western Robin, 10-11 days (Saunders, Condor, xvi, 143.)

Bluebird, 15 days (Knight, Bds. Me., 643); 16 days (Hodge, Bd.-Lore, vi, 44; Hubbard, Ib., xi, 66; Boulton, Ib., xviii, 125); 18 days (McKinnon Ms.)

Mountain Bluebird, more than 12 days (Wheelock, Bds. Calif., 508.)

[1] Some twelve years ago, in collaboration with Dr. Lynds Jones, printed forms were circulated among the members of the Wilson Ornithological Club for a coöperative study along certain lines of the nesting habits of our birds and a number of original observations were received by the writer from Dr. G. C. Fisher while at DeFuniak Springs, Fla.; Cold Spring Harbor, Long Island; Butler, Logan and Miami Cos., Ohio; Messrs. T. A. Elliot, Jr., North East Harbor, Maine; J. F. Ferry, Lake Forest, Ill.; H. E. Haughey, Bangs, Ohio; Henry Link, Waterloo, Ind.; R. F. Miller, Frankford, Pa.; Angus McKennon, DeFuniak Springs, Fla.; L. S. Pierson, Valley Forge and Wayne, Pa.; A. C. Redfield, Wayne, Pa., and Barnstable, Mass.; A. C. Read, Isle of Pine, Cuba; C. H. Rogers, Princeton, N. J.; E. W. Vickers, Elsworth, Ohio; Mesdames G. K. Holmes, Summit, N. J.; O. M. Schantz, Morton Park, Ill, and Farida Wiley, Sidney, Ohio; before the project was abandoned. This paper is written in order to keep faith with the observers who contributed some very full reports. I am also indebted to Dr. C. W. Townsend, Messrs, O. E. Baynard, A. B. Howell, G. Willett, and J. H. Gurney (of Norwich, England) for information.

TEN SPRING BIRD LISTS MADE NEAR WASHINGTON, D. C.*

BY W. L. MCATEE

Nearly every year since 1907, Edward A. Preble and the writer, sometimes in company with others, have made at least one trip during the height of migration, on which an effort was made to list as many species of birds as possible. Notes on some of these trips have been mislaid, but those for ten out of the fifteen years, are in presentable condition.

Before reproducing the lists it may be well to state the conditions under which they have been made. Preble and McAtee have consistently followed a definite set of rules in making their bird lists, in which most of their companions on these trips have acquiesced. All birds listed (with the single exception of the whip-poor-will) have been seen, by all members of the party † if possible, and species rare or difficult to identify have been collected. Sub-species have not been considered; these are scarcely a subject for field observation, and moreover, add nothing to a list of bird *species*. Observations have extended from daybreak to dark, and the standard (rarely deviated from) has been a continuous walking trip. Bird lists made under such

* The writer is obliged to E. A. Preble, Alex. Wetmore and W. R. Maxon for reading this paper in part or wholly and making useful suggestions.

† Witmer Stone (The Auk, Vol. 37, No. 3, July 1920, pp. 485-6) has stated that: "The plan practiced by certain careful observers of never recording a bird that both have not seen and satisfactorily identified is excellent. . . . Confirmation of other observers is an excellent feature and the person who always works alone and always sees the largest number of species can not help but arouse a doubt as to whether his enthusiasm has not carried him away." The writer would add that the spirit of competition in making bird lists, and the desire to record the largest number of species, does not appear to be for the best interests of ornithology. The participants in the trips here described have found their greatest satisfaction in searching for the best route in their vicinity for an all-day bird tramp, and in comparing its yield from year to year.

rules are far more comparable for different years and localities, than those in which other means of transportation are used. Skipping about from one faunula or life-zone to another by rapid transit may yield longer lists of species, but it introduces also elements which make for lessened reliability of records and puts standardization, and therefore comparability of lists, out of the question. Withal it is hopeless, whatever the equipment, to see all of the birds present in any region at a given time.

If there is one point more than another in these rules for making a bird list, that the writer would emphasize, it is *seeing* (or in case of doubt, collecting) the birds. Recording species on the basis of calls and songs alone certainly is unsafe. Few have ears keen and practiced enough to discriminate all of the multitude of avian chirpings and carollings and fewer still have an auditory memory reliable enough to name notes heard only a few times each year or perhaps in several seasons.

The risks taken in making sound records may be thoroughly illustrated without seeking examples outside the local avifauna. First we have several couples or other groups of birds that habitually utter one or more very similar notes. Among groups having similar and easily confused call-notes are the brown creeper and the kinglets; tufted titmouse and chickadee: and the robin ("seep" note) and cedarbird. The blue jay has a note that is an almost exact duplicate of the most common utterance of the red-shouldered hawk. Similarities among true songs are marked in the following groups: cardinal, Carolina wren and tufted titmouse; junco, chipping sparrow and pine warbler; purple finch and warbling vireo; and so far as fragmentary or typical songs are concerned the following also must be named: Baltimore oriole and rose-breasted grosbeak; and the redstart, yellow and chestnut-sided warblers.

Then there are the singers of medleys, as the catbird, brown thrasher and mockingbird, detached phrases of whose songs might be mistaken for those of various other species. Finally we have a number of actual, and some-

times very close imitations of notes by various birds. The mockingbird, its name gives evidence, is especially notable in this respect. Two of its common and nearly perfect imitations in this region are the ordinary calls of the bob-white and killdeer. Dr. A. K. Fisher tells of hearing a mocker give in quick succession reproductions of calls or songs of the Carolina wren, tufted titmouse, flicker, robin and meadowlark. The mockingbird's congeners, the brown thrasher and catbird, also, are by no means lacking in imitative ability.

A species noted as a mocker in Europe and which since its introduction has become common here, namely, the starling, has as yet, in the United States, received little recognition for its powers as a mimic. However, it copies notes of the bluebird and wood pewee to perfection. I have on a number of occasions heard the call of the last-named species closely imitated also by the white-eyed vireo.*

Further illustration of the difficulties in identifying notes is to be found in the fact that some birds vocalize in dual roles (this includes all having flight songs), and rarely a species may sing entirely out of character. The grasshopper sparrow, and the Maryland yellow-throat are examples of species each having two utterly different types of songs. On the spring-bird trip of 1921 a song was heard from a bird perched on a wire along an open field with scattered bushes and small trees. The song seemed to be that of Bachman's sparrow, a steady trill followed by three distinct louder notes, and the habitat confirmed the impression. Before a good view was obtained the bird flew down to a small pine, and we cautiously approached, confidently expecting to add this rather rare finch to our list, but to our amazement the bird proved to be an *oven-bird*. It was in an entirely ab-

* Witmer Stone (The Auk, Vol. 38, No. 2, April 1921, p. 290) expressed doubt that such mimicry is very frequent among our birds, but the number of examples cited for one area indicates that for the United States a considerable showing of the phenomenon could be made.

normal environment and we watched it for some time as it repeated a song none of us had ever even dreamed an oven-bird could sing. Cases are on record of redstarts singing so abnormally as to cause collectors to pursue these individuals for a long time and even then find it necessary to collect them to determine the species.

Notes are of the utmost service, of course, in locating birds, and in some cases are a great help in making field identifications, as in the case of red-tailed and red-shouldered hawks, or almost a necessity, as in the case of the fish crow and common crow, and the species of *Empidonax*. Nevertheless, as a policy it is safer and surely it is a much greater pleasure and satisfaction to actually see every species. Finally, to show, by anecdote, the possibilities of blundering, in identifying notes, I may relate an experience of certain members of the Washington Biologists' Field Club. While seated on the porch of their house on Plummers Island, Md., one warm summer evening, they heard a sound from the direction of the canal back of them and distant some 300 yards. Guesses as to the source of the sound by various naturalists in the company, named the following animals: bullfrog, night-heron, and cow. Notes of the tree-toad also have frequently been mistaken for those of the red-bellied woodpecker. Is not the moral obvious? To be sure, see your bird!

The equipment found most useful on the bird trips here described has been 8-power prism binoculars, with a 30-power telescope in reserve for "long-shots," particularly at water-birds. One or more collecting pistols have always been accessible. Concluding the remarks on the manner in which these excursions have been conducted, we present, in tabular form, statements of the route of each trip, names of the observers, and the number of and names of species seen.

1907, May 15. Cleveland Park, Piney Branch, Rock Creek, Chevy Chase Circle, D. C., Glen Echo, Md., Georgetown, D. C., Roslyn and Four-mile Run Hill, Va., E. A. Preble, W. L. McAtee. Number of species seen, 83.

1908, May 14. Piney Branch, Rock Creek, by street car to Benning, by boat Eastern Branch, to Licking Banks, D. C., Bladensburg, Md., then on foot to hills to eastward and return to Benning,

D. C. H. C. Oberholser, W. L. McAtee. Number of species seen, 96.

1909, May 10. About same route as in 1907. E. A. Preble, W. L. McAtee. Number of species seen, 71, my own list only; my notebook states that Preble saw 7 others.

1912, May 9. Mouth of Four-mile Run to Munson Hill and Upton, Va. A. K. Fisher, E. A. Preble, W. L. McAtee. Number of species seen 85.

1913, May 12. Elkins, Mouth of Difficult Run, Mouth of Dead Run, upper Turkey Run, Langley, and Chain Bridge, Va., and D. C., by car to Foxhall Road, thence along Foundry Run to Observatory Heights, D. C. E. A. Preble, W. L. McAtee. Number of species seen 73.

1917, May 17. Mt. Vernon, Dogue Creek, Little Hunting Creek and Dyke, Va. Alex. Wetmore, W. L. McAtee. Number of species seen 95.

1918, May 11. Woodlawn, Dogue Creek, Dyke and New Alexandria, Va. Clarence Shoemaker, Alex Wetmore, W. L. McAtee. Number of species seen 101.

1919, May 13. Woodlawn, Dogue Creek, Little Hunting Creek and Dyke, Va. A. K. Fisher, E. A. Preble, W. L. McAtee. Number of species seen 100.

1920, May 11. Same route as 1919. Alex. Wetmore, E. A. Preble, W. L. McAtee. Number of species seen 98.

1921, May 18. Woodlawn, Dogue Creek, Gum Spring, and Dyke, Va. Remington Kellogg, E. A. Preble, W. L. McAtee. Number of species seen 88.

Commenting on these trips, it is at once apparent that they are sharply marked off in two five-year groups. The average number of species seen on the first five trips was 81.6 and on the second 96.4. The explanation for this striking divergence may well be stated at once, leaving detailed comment to follow. It is that the excursions for the first half of the decade were mainly up-river from Washington, in less varied country, while the last five were distinctly down-river, bringing the observers through not only much territory like that up-stream, but also along the broad expanses and more extensive marshes of the lower river. Naturally, therefore, the most striking difference in the character of the bird lists for the two groups of trips is the greater prevalence of water-birds in the second set. Down the Potomac seems a better place to see also the marsh hawk, bald eagle, osprey, red-bellied woodpecker, bobolink, yellow-throated warbler, mockingbird and marsh wren. The presence of the starling in none of

SPECIES SEEN ON TEN SPRING BIRD TRIPS NEAR WASHINGTON, D. C.

Date of Trip	May 15 1907	May 14 1908	May 10 1909	May 9 1912	May 12 1913	May 17 1917	May 11 1918	May 13 1919	May 11 1920	May 18 1921
Horned grebe								x		
Pied-billed grebe							x			
Herring gull						x				
Bonaparte's gull							x		x	x
Black Tern						x				
American merganser							x			
Mallard							x			
Black duck							x			x
Scaup duck							x			x
Ruddy duck							x			
Bittern										x
Least bittern				x						
Great blue heron		x							x	x
Green heron	x	x				x	x	x	x	x
Black-crowned night heron	x	x	x	x	x		x	x	x	x
Virginia rail							x			
Coot										x
Woodcock			x							
Least sandpiper		x								
Semipalmated sandpiper		x	x			x				
Lesser yellow-legs	x	x	x			x				
Solitary sandpiper	x	x	x			x	x		x	x
Spotted sandpiper	x	x	x	x	x	x	x	x	x	x
Killdeer		x				x	x	x	x	x
Semipalmated plover			x							
Bob-white	x	x	x	x	x	x	x	x	x	x
Mourning dove	x	x		x	x	x	x	x	x	x
Turkey vulture	x	x	x	x	x	x	x	x	x	x
Marsh hawk						x				x
Sharp-shinned hawk	x			x	x	x		x		
Cooper's hawk		x			x		x	x		
Red-tailed hawk				x						
Red-shouldered hawk				x				x	x	
Broad-winged hawk				x						
Bald eagle						x	x	x		x
Sparrow hawk			x							
Osprey			x					x	x	x
Barred owl			x		x				x	
Yellow-billed cuckoo	x	x		x			x	x	x	
Black-billed cuckoo				x						
Kingfisher	x	x	x	x		x	x	x	x	x
Hairy woodpecker				x	x	x		x	x	
Downy woodpecker	x	x		x	x	x		x	x	x
Yellow-bellied sapsucker						x		x		
Red-headed woodpecker	x	x	x		x	x		x	x	
Red-bellied woodpecker								x	x	
Flicker	x	x	x	x	x	x	x	x	x	x
Whippoorwill				x			x			
Nighthawk		x		x		x			x	x
Chimney swift	x	x	x	x	x	x	x	x	x	x
Hummingbird	x	x		x	x		x	x	x	x
Kingbird	x	x	x	x	x	x	x	x	x	x
Crested flycatcher	x	x	x	x	x	x	x	x	x	x
Phoebe	x	x	x	x	x	x	x	x	x	x
Olive-sided flycatcher				x						
Wood pewee	x	x	x	x	x	x	x	x	x	x
Acadian flycatcher		x		x		x	x		x	
Least flycatcher		x		x			x		x	x
Blue jay	x	x	x	x	x	x	x	x	x	x
Crow	x	x	x	x	x	x	x	x	x	x
Fish crow	x	x	x	x	x	x	x	x	x	x
Starling						x	x	x	x	x
Bobolink	x	x				x		x	x	x
Cowbird	x	x						x		
Red-winged blackbird	x	x	x			x	x	x	x	x
Meadowlark	x	x	x	x	x	x	x	x	x	x
Orchard oriole	x	x	x	x	x	x	x	x	x	x
Baltimore oriole	x	x	x	x		x	x	x	x	x
Purple grackle	x	x	x	x	x	x	x	x	x	x
Purple finch		x								
English Sparrow	x	x	x	x	x	x	x	x	x	x

Date of Trip	May 15 1907	May 14 1908	May 10 1909	May 9 1912	May 12 1913	May 17 1917	May 11 1918	May 13 1919	May 11 1920	May 18 1921
Goldfinch	x	x	x	x	x	x	x	x	x	x
Vesper sparrow									x	
Savannah sparrow							x	x		
Grasshopper sparrow	x			x	x	x	x	x	x	x
Henslow's sparrow						x	x	x	x	x
White-crowned sparrow						x		x	x	
White-throated sparrow	x			x	x	x	x	x	x	
Chipping sparrow	x	x	x	x	x	x	x	x	x	x
Field sparrow	x	x	x	x	x	x	x	x	x	x
Song sparrow	x	x	x	x	x	x	x	x	x	x
Swamp sparrow		x		x			x	x	x	
Chewink	x	x	x	x	x	x	x	x	x	x
Cardinal	x	x		x	x	x	x	x	x	x
Rose-breasted grosbeak	x	x			x	x	x	x	x	x
Blue grosbeak	x									
Indigo bunting	x	x	x	x	x	x	x	x	x	x
Scarlet tanager	x	x	x	x	x	x	x	x	x	x
Summer tanager	x								x	
Purple martin		x		x		x	x	x	x	x
Cliff swallow						x				
Barn swallow	x	x	x	x	x	x	x	x	x	x
Tree swallow			x	x		x	x			x
Bank swallow		x	x	x	x		x	x		x
Rough-winged swallow	x	x	x	x	x	x	x	x	x	x
Cedar waxwing	x					x			x	x
Migrant shrike					x	x		x		
Red-eyed vireo	x	x	x	x	x	x	x	x	x	x
Yellow-throated Vireo	x	x	x	x	x	x	x	x	x	x
White-eyed Vireo	x	x	x	x	x	x	x	x	x	x
Black and white warbler	x	x	x	x	x	x	x	x	x	
Worm-eating warbler	x	x	x		x		x	x	x	
Blue-winged warbler		x				x		x	x	
Golden-winged warbler				x				x		
Parula Warbler	x	x	x	x	x	x	x	x	x	x
Cape May Warbler		x			x	x	x	x		x
Yellow warbler	x	x	x		x	x	x	x	x	x
Black-throated blue warbler	x	x	x	x	x	x	x	x		x
Myrtle warbler	x	x	x	x	x	x	x	x	x	x
Magnolia warbler	x	x		x	x	x	x	x	x	
Chestnut-sided warbler		x	x	x	x	x	x	x	x	
Bay-breasted warbler		x	x	x	x	x	x	x	x	x
Black-poll warbler	x	x	x	x	x		x	x	x	x
Blackburnian warbler		x					x	x		
Yellow-throated warbler		x				x	x		x	
Black-throated green warbler	x	x	x			x	x	x	x	x
Pine warbler		x				x	x	x		
Prairie warbler	x	x		x	x	x	x	x	x	
Oven-bird	x	x	x	x	x	x	x	x	x	x
Water-thrush	x	x								
Louisiana water thrush	x	x		x	x		x		x	
Kentucky warbler	x	x	x		x		x		x	x
Mourning warbler				x						
Maryland yellow-throat	x	x	x	x	x	x	x	x	x	x
Yellow-breasted chat	x	x		x	x	x	x	x	x	x
Hooded warbler		x			x	x	x	x	x	x
Wilson's warbler	x	x		x			x	x	x	
Canada warbler	x	x	x	x		x	x	x		x
Redstart	x	x	x	x	x	x	x	x	x	x
Mockingbird				x	x	x	x	x	x	x
Catbird	x	x	x	x	x	x	x	x	x	x
Brown thrasher	x	x	x	x	x	x	x	x	x	x
Carolina wren	x	x	x	x	x	x	x	x	x	x
House wren	x	x	x	x	x	x	x	x	x	x
Long-billed marsh wren	x	x	x			x	x	x	x	x
White-breasted nuthatch	x		x				x			
Tufted titmouse	x	x	x	x	x	x	x	x	x	x
Carolina chickadee	x	x	x	x	x	x	x	x	x	x
Ruby-crowned kinglet						x				
Blue-gray gnatcatcher		x		x		x	x	x	x	x
Wood thrush	x	x	x	x	x	x	x	x	x	x
Wilson's thrush	x	x		x				x	x	x
Gray-cheeked thrush	x	x								
Olive-backed thrush	x	x	x	x	x	x	x	x	x	x
Robin	x	x	x	x	x	x	x	x	x	x
Bluebird	x	x	x	x	x	x	x	x	x	x
Total Species Seen	83	96	71	85	73	95	101	100	98	88

the first but in all of the second five lists is a phenomenon of time rather than of locality. The up-stream country seems to have hardly a point (other than that already mentioned) of superiority over the lower, although from general experience it may be said that at least the worm-eating warbler is more often seen there.

Of the birds seen on only one of the ten trips, it may be said that the grebes and ducks, the coot and strictly migrant shorebirds are of decidedly irregular occurrence at the season in point; the bitterns are elusive; and the woodcock and hawks locally restricted species in this their breeding season; the black-billed cuckoo, vesper sparrow and blue grosbeak are not only local but rare breeders; the purple finch and ruby-crowned kinglet are near the end of their spring stay; and the mourning warbler is a rare migrant, one certainly not apt to be seen more than once in ten trips.

As to species not seen, but which reasonably might have been expected, the following may be mentioned: ring-billed gull, wood duck, ruffed grouse, screech owl, great horned owl, yellow-bellied flycatcher, warbling vireo, and the Tennessee warbler. In addition to these the red crossbill, siskin, junco, Bachman's sparrow, Lincoln's sparrow, solitary vireo, yellow palm warbler and red-breasted nuthatch certainly are possibilities. The composite list of birds actually seen on the ten trips is 146 species; 8 probabilities and 9 possibilities (great rarities absolutely excluded)have just been mentioned, so it may be seen that on a day in the very height of migration in a good year, with all luck attending, an exceedingly good bird list might be compiled.

But luck in all directions never does occur simultaneously. At the end of a long day's tramp it generally is true that some more or less common birds have not been seen; the list is poor in woodpeckers, or hawks or waterbirds, or thrushes; conditions are seldom right for all groups of birds on one day. Some fairly common species even are elusive, especially those breeding at this season. Pairs are scattered here and there at their nesting sites, and one must actually enter their domain to find them.

Examples are the hawks, Henslow's sparrow, the butcher-bird and the white-breasted nuthatch. However, the localizing of birds has its advantages when the observers have become well acquainted with the country. They are able to call upon certain birds, as it were, and the regularity with which representatives of the species are found in a given area, year after year, is remarkable.

In the earlier years, it was by no means the easiest thing in the world, to get a robin or crow blackbird on the list of birds seen. But since that time these species have become decidedly more common; other breeding birds which have shared this tendency to a greater or less degree, are: the orchard oriole, migrant shrike, and mocking-bird. Among strict migrants the Cape May and Tennessee warblers have been seen more frequently in recent seasons than they were ten to fifteen years ago. The European starling has been steadily increasing in numbers since its first appearance in our region in 1913. Decrease in numbers within the period of the lists here presented, can hardly be ascribed to any species except the English sparrow; although in a period of about twice as long, hawks and owls in general are known to have become much scarcer.

Consideration of the bird lists here presented brings up the question among others as to what evidence they give as to the height of migration in the District of Columbia region. The ten annual excursions here cited represent every date from May 9 to 18 except the 16th. The days on which more than the average number of species were seen were 11, 11, 13, 14 and 17. The longest two lists were obtained on 11 and 13. These data confirm the usual impression among bird students here that the height of migration is apt to occur from May 10 to 15.

The peak of migration then occurs at a period when some of the later migrants normally are just beginning to arrive, as the least bittern, yellow-bellied and alder flycatchers, Connecticut and mourning warblers and the gray-cheeked thrush. In the average season, therefore, most of these species are not likely to be seen on a trip taken during the actual height of migration. If the date is post-

poned until these birds are in full migration numerous earlier migrants will have passed through or will be represented merely by stragglers. Occasionally migration is delayed in such a way that ordinary migrants are here in numbers at the same time as the later ones. Theoretically, such conditions afford the greatest opportunity for a long bird list. The writer has made only one trip at such a time, and not realizing the opportunity in advance, the route taken was entirely in one type of country where there was little chance of seeing marsh and aquatic birds. This was on the 30th of May, 1917 (valley of Patuxent, above Laurel, Md., in company with Alex. Wetmore and Douglas C. Mabbott) and 73 species of birds were seen. Among them were four species not recorded in any of the lists here discussed, namely, Lincoln's sparrow, the Tennessee warbler, Philadelphia vireo, and yellow-bellied flycatcher. The last-named was actually common, 17 individuals being seen. On the annual spring excursions here analyzed only one mourning warbler had been observed, but on this day we saw six. Specimens of this species, the yellow-bellied flycatcher and Philadelphia vireo were collected. A very good list (20 species) of warblers was made, the records being very late for the Cape May, black-throated blue, myrtle, magnolia, chestnut-sided, bay-breasted, and Canada warblers, and the olive-backed and and gray-cheeked thrushes. Taking advantage of the revelations of this day various observers made bird trips in the next few days, with the result that the year 1917 furnished a larger number of latest dates for migrants than any other. With a delayed (and therefore condensed) migration realized, an all-day trip made over the best route in the region should give most gratifying results. What an opportunity there was, for instance, during the "tidal wave" of birds as described by Coues and Prentiss * for the second and third weeks of May, 1882, when even the trees in the city parks and streets were swarming with warblers and other brightly colored migrants. If such a phenomenon occurs again let us hope that Washington observers make the most of it.

* Avifauna Columbiana, 1883, pp. 31-32.

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EDITORIAL

Your editor wishes to stress the importance of the Annual Meeting, which is to be held, this year, on December 26th and 27th at the Field Columbian Museum, in Chicago. Matters of policy of the utmost importance to every member will be discussed, upon which decisions must be made. Your participation in the discussions and your vote in the final action to be taken are urgently needed. The program of papers and discussions of them will be well worth your while, and the opportunity to meet others who are working and thinking along the lines of your activities will be an inspiration and a help for the months that follow. If you cannot be present on the 26th come on the 27th. It is likely that the meetings will run over to the 28th.

Bird banding as a means of determining the movements of birds has been practiced for many years, but not until Mr. S. Prentiss Baldwin, of Cleveland, Ohio, opened the field by combining banding with systematic trapping, had the results obtained anywhere near paid for the outlay in money and time. Mr. Baldwin's results clearly show that here is a means within the reach of any persons who can secure a permit to trap birds for this purpose, and who have sufficient knowledge of bird species to handle them intelligently, of adding facts of the greatest importance to our knowledge of the movements of the birds, and also to shed great light upon the breeding habits of such birds as permit handling during their breeding activities. Since the method approaches exactness it is far superior to bird watching in revealing certain habits which are connected with the breeding activities. While any one person will be able to learn many things worth while there are many other things that can be learned only by coöperation over a wide area. The U. S. Biological Survey furnishes the bands and the instructions that are necessary for the work, and is the clearing house to which all records are sent, both bands placed and bands found upon birds that have been caught. If you are interested in this line of work you would do well to write to the Chief of the Biological Survey, Washington, D. C., for information, which will be sent to you promptly.

FIELD NOTES

THE ROADSIDE CENSUS IN MASSACHUSETTS

In western Massachusetts we found roadside censuses were not as easy to take as in Oklahoma; first, because of the good roads, automobiling is apt to be too rapid for bird identification; second, the birds are less in evidence since they are not largely dependent on fence and telephone wires for perches; and, lastly, there are various kinds of sparrows and swallows that cannot readily be distinguished. Nevertheless, the results of ten censuses — 154 miles — taken in Hampshire, Hampden and Franklin counties between June 7 and July 13, 1921, are interesting for comparison with our findings in Oklahoma.*

As to the kinds of birds, Kingbirds, Bluebirds and Cliff Swallows were almost the only native birds seen in both States; the former averaged nearly the same number of individuals seen per census in both localities — 3.8 in Oklahoma and 3.3 in Massachusetts, — but Bluebirds were much less common in the East, averaging only 1.6 per census in contrast to the 6.5 in the West. (As the 1920 censuses average 20 miles apiece and those in 1921 15 the advantage of Oklahoma is even greater than first appears). It was a relief to find English Sparrows comprising only 11 per cent of the total number of birds seen, instead of 28. Robins were by far the most abundant bird recorded, 28 per cent of the 587 native birds belonging to this species.

In regard to the number of birds seen per mile, the average for all censuses was lower in Massachusetts than in Oklahoma— 3.8 in contrast to 4.8; and when we consider that all the eastern censuses were taken in pleasant weather, and compare this 3.8 with the 5.2 in Oklahoma, we have fewer birds than ever. However these censuses are not directly comparable, for in Massachusetts two-thirds of them were taken in the heat of the day and in Oklahoma only three-sevenths occurred at this period. The censuses in the cool of the day are astonishingly alike in both States: 6.1 birds per mile in Massachusetts and 6.2 in Oklahoma. But the five counts taken during the heat of the day — 101 miles — show somewhat fewer birds in the East: 2.6 in comparison to 3.9 in the West. (The maximum temperature ranged from 79° on three days to 88° on one day and 93° on another, which was less, of course, than the average maxima on the Oklahoma censuses of 90° to 95°, not to mention the exceptional one of 99°). It may be that New England birds dislike excessive heat more than the prairie birds do, or it may simply be that fewer were seen because of the greater accessibility of cover in this region.

* Nice, M. M. & Nice, L. B. This Journal. XXXIII, 3. 1921. p. 113–123.

Three later censuses — 42 miles — from August 3 to 9, gave an average of 8 birds per mile; in these the effect of the flocking of Cliff and Barn Swallows is seen, for more than half of the native birds recorded — 125 out of 330 — belonged to these species.

This further experience has convinced us that the chief value of the roadside census for comparative purposes lies during the breeding season, partly because birds are easier to identify then, but largely because of the stability of the avian population.

Norman, Okla. MARGARET M. NICE and L. B. NICE.

SPRAGUE'S PIPIT—*ANTHUS SPRAGUEI*—IN FLORIDA

On February 23rd, 1921, while investigating a colony of Florida Burrowing Owl (*Speotyto floridana floridana*) in De Sota County —now Charlotte County — about eight miles northwest of Punta Gorda, I noticed two small birds fly up from the very open, sandy "prairie" and go off quite wild in rather erratic flight. A general grayish color and decidedly white on the outer tail feathers indicated a stranger to me. One of the birds went off entirely out of sight *eastward* while the other lit on the summit of an excavation on the border of a large drainage canal and was there shot and later found to be a female in normal winter plumage.

So far as I can determine this is the first record for this bird in Florida.

On March 7th, following, while crossing the same "prairie" about one and one-half miles farther east another bird of this species was observed and twice flushed at long range and finally disappeared. I judged it might be the number two bird seen February 23rd.

C. J. PENNOCK,

Kennett Square, Pa.

WILD BIRDS AND GAME FOWL ARE INCREASING

Notable increases in migratory birds, through special protection afforded them under Federal laws, are reported by George A. Lawyer, Chief U. S. Game Warden of the Bureau of Biological Survey, United States Department of Agriculture, as a feature of his recent inspection of the various districts scattered throughout the country. Mr. Lawyer's trip took him practically around the borders and coasts of the entire country, giving him opportunity to observe the condition of the birds in all important wintering sections of the United States.

Wild ducks and geese were found in great abundance, showing the most notable increase of any of the migratory birds. Greater numbers of upland plover, sandhill cranes, and Wilson snipe or jacksnipe, were also especially noted. The welfare of the birds was found to be generally satisfactory and promising, although the

draining of marsh lands in many places has driven them from some of their old feeding and breeding haunts.

Greater need is evidenced for the Government purchase and maintenance of large tracts of marsh lands, where the birds would be secure from molestation. Such natural asylums, it is said, are becoming fewer and consequently are affording less protection each year, due chiefly to the large areas being reclaimed for commercial purposes. The birds are quick to discover when they are in places where they are safe from hunters.

NOTES ON SOME FLYCATCHERS OBSERVED NEAR MINDEN, NEBRASKA

After reading the article on the distribution and migration of the flycatchers of Nebraska in the September, 1921, number of the Wilson Bulletin, it seems desirable to place on record the fact that in company with two other observers I noted a scissor-tailed flycatcher here at Minden, Kearney County, in the spring of 1917. I also found the crested flycatcher here in the spring of 1919, and the least flycatcher is a common migrant here both in the spring and fall. The fall migration this year is much less than I have observed it to be for many years. Mr. Mortenson and myself saw a mockingbird October 28, 1921, which is much later than I have known one to be here before.—H. Hapeman, Minden, Nebraska.

AN UNUSUAL EASTWARD MOVEMENT OF THE MAGPIE IN NEBRASKA

Ordinarily the magpie does not move eastward in the fall beyond the 100th meridians, except along the northern border of Nebraska, and records of its occurrence east of the 98th meridian are few, usually not more than once every few years. The present fall of 1921, however, has brought these birds in unusual numbers into eastern, and even southeastern Nebraska. The first report of the occurrence of the magpie in southeastern Nebraska this year came from the rather heavily wooded Salt Creek bottoms in southern Lancaster County, south of Lincoln, during the first week in October. Numerous Lincoln observers reported the magpie from that region during October, usually but one bird seen, except that Mrs. George O. Smith noted two birds on October 9. The last date on which the magpie was noted in that region was on October 23, when one bird was seen by Mr. N. F. Peterson. On October 11 the magpie was noted by Mrs. John Loder on her farm near Waverly in northeastern Lancaster County, and the bird was present there until at least October 30, when it was last noted. On October 23 Mr. L. W. Dawson of Lincoln, saw three magpies near Weeping Water, Cass County, within a few miles of the Missouri river. About October 29 a flock of five magpies

appeared near Fairbury, Jefferson County, making their headquarters about a slaughter house and refuse dump two miles from town, and were still there on November 12, on the authority of Mrs. H. F. Hole of Fairbury. No doubt there are other records from other localities in southeastern Nebraska that have not come to our attention, but the above is sufficient to indicate a movement of magpies into southeastern Nebraska greater than has taken place for at least the past twenty-five years, during the present fall.—Myron H. Swenk and Ralph W. Dawson, Lincoln, Nebraska.

BIRD COLLECTIONS OF THE MILWAUKEE MUSEUM

Many bird lovers and ornithologists of the middle west are perhaps unaware that the Public Museum of the city of Milwaukee has one of the finest exhibition collections of birds to be seen in this country.

The excellence of the Taxidermy and attractive installation, particularly of the North American collection, is largely due to the efforts of Mr. George Shrosbree, for twenty-two years Chief Taxidermist of the institution. All specimens in the systematic collections are on limbs, twigs, artificial rockwork, etc., attached directly to the backs of cases, doing away with the unsightly rows of polished stands and bases.

The North American systematic collection contains about 1370 specimens, representing 720 species and sub-species. Over forty small groups of Wisconsin birds with nestlings are shown and two especially attractive large groups. A unique feature of the collection is the large number of very young, unfledged nestlings shown. There are a number of other birds groups, both foreign and North American. The foreign systematic collection contains about 1300 mounted specimens.

"Milwaukee Region" collections containing 210 species of birds that regularly visit the locality, is especially interesting to local students. A bird's position in the case indicates whether it is north of, south of, or in the area, the specimens being changed frequently during the migrations.

The oologist will be delighted with the fine R. F. Goss collection of North American bird eggs containing, among many other rarities, the eggs of the Trumpeter Swan.

A beautifully prepared Pigeon Exhibit shows thirty-four of the more striking domestic breeds and the Rock Pigeon from which they were derived. Bird skeletons, a synoptic collection, and the study skins are there for those who desire to use them.

Plans have been made for, and considerable preliminary work already done on a series of large North American bird groups to be constructed in the near future.

Milwaukee, Wis. HERBERT L. STODDARD.

BURROWING OWL LAYS EGG IN CAPTIVITY

Last season, on April 20th, 1920, while digging out a burrowing owl hole in a wheat field in Benicia I captured the female owl in the nest cavity. One egg had been laid in the enlarged chamber, six feet from the entrance, with no nest except dried horse dung, which carpeted the burrow from the entrance. I took the owl home and improvised a cage for her. On the morning of the second day after her capture, when we arose in the morning, we found an egg on the board floor of the box in which we had confined her. I thought she might lay some more as this was but her second one, and one's natural impression would be that eggs in process of formation would necessarily have to develop and be deposited; however, birds apparently have remarkable control over this function, as, for instance, is evidenced by the fact that a complete new set of eggs can be brought into existence within a comparatively few days after the destruction of a previous set. It also appears that they can stop laying if they so desire, and this she did, as, although I kept her five days longer, she would lay no more. As I had no access to mice or other rodents I shot some sparrows, one or two a day, though no doubt she could have taken care of more. These she ate entirely, leaving no sign of flesh, feathers, or claws, though she would not eat if she was aware that anyone was watching her. When anyone appeared suddenly in front of her cage she would assume an attitude of willingness to take either offensive or defensive, at the same time uttering a long scream and glaring at the intruder until she got accustomed to his presence, then she would settle down, continuing to glare at him. If our cat showed himself there was a continual screaming until the animal disappeared. After our interesting little visitor had spent her seventh day with us we took her back to the same field and released her.

Benicia, Solano County, Calif. EMERSON A. STONER.

THE CHICAGO ORNITHOLOGICAL SOCIETY

Dr. R. M. Strong, with twenty-two students of ornithology in the University of Chicago, founded the Chicago Ornithological Society in December, 1912. The purpose of the Society being to stimulate interest in the study of Bird Life, especially our local birds, by the collection of data and comparison of field notes on the birds of the Chicago area.

The meetings were at first held in the buildings of the University, but as the membership of the Society grew, with members residing in all parts of the city, a central meeting place became desirable, and since 1915 the Society has held monthly meetings in the Loop District. A number of our members were kind enough to tender the use of their downtown offices for this purpose and those of us who have attended these meetings during

the past five years will recall many pleasant and profitable evenings, when we gathered in the reception room of Dr. Groenewoud or Dr. Test or Dr. Lewy. For over a year past the meetings were held in the rooms of the Cook County Forest Preserve in the County Building, then the Crerar Library gave the use of the Class Room in their new building at Michigan Boulevard and Randolph Street, where meetings have been held since March, 1921.

From a small beginning, with but a handful in attendance, the Society has grown until today the meetings are well attended. It has encouraged the scientific side of ornithology and has gathered together a group of students who are doing valuable work and who obtain both instruction and enjoyment in the informal Round Table talks, when notes and experiences are read, compared and discussed. One or two field trips are held each year. A committee has under its care the recording of migration and nesting data of the birds of the Chicago area. Some members travel about over the country and return with a message for us on the birds of distant States, while stay-at-home members bring us the message gleaned from an intimate study of one or more of our own local birds. But after all it is the enthusiasm, mutual help and good fellowship these meetings inspire that assures the Chicago Ornithological Society a bright and lasting future.

Chicago, Ill. CHRESWELL J. HUNT.

NOTES—HERE AND THERE

Conducted by the Secretary

Dr. T. C. Stephens of Sioux City, spent a goodly part of the summer preparing data and manuscript on the summer birds of the Lake Okoboji region in Iowa.

Perhaps the finest ornithoolgical library in the middle west is that of the Crerar Library in Chicago. In addition to the splendid collection of books, here may also be found complete files of most of the bird magazines of consequence which have been published in this and other countries. The Library has recently removed to permanent quarters in the Marshall Field Building on Wabash avenue.

Dr. Wilfred H. Osgood is now Curator of Zoölogy at the Field Museum of Natural History, Chicago. Dr. Osgood will take over the ornithoolgical work of the late Dr. Charles B. Cory of that institution.

Prof. Thos. L. Hankinson, one of our former Secretaries, has accepted the chair of Biology at the State Normal School at Ypsilanti, Mich. Professor Hankinson had been with the New York School of Forestry at Syracuse.

Some years ago, when the present Secretary took up his new duties, friend Bales of Circleville, Ohio, wrote him that "the Club has a lot of mighty fine fellows in it." The truth of this remark has become more and more apparent as time goes on and the writer would amplify it only to include the ladies.

Mr. George M. Sutton of the Carnegie Museum in Pittsburg, is preparing the colored plates for H. H. Bailey's forthcoming book on the birds of Florida. Mr. Sutton's work has attracted well deserved attention and he birds fair to rank high among our bird artists.

A method of securing copies of pages from rare books, or of illustrations, manuscripts, etc., is afforded by the use of the Photostat, with which most of our larger libraries are now equipped. To ornithologists, engaged in research work or in getting together literature pertaining to any particular area, this photographic process permits securing facsimile copies of the originals and at a smaller cost than for typewritten copies. The New York Public lic Library filled over 5,000 orders during 1920 at a cost of about 13 cents per page. The Crerar Library of Chicago and the Chicago Public Library are among the western institutions which render Photostatic or similar service.

Mr. C. J. Pennock of Kennett Square, Pa., with whose Florida writings our readers are quite familiar, is spending the winter again in southwestern Florida, at Punta Gordo.

The splendid oological collection of the late John Lewis Childs of Floral Park, N. Y., is being disposed of to the public. Half "Lattin's rates" is said to apply throughout

Dr. and Mrs. George R. Mayfield of Nashville, spent the month of September in and about Chicago, getting acquainted with the birds of that area. Dr. Mayfield's specialty is the call notes and songs of the warblers.

The John Burroughs Memorial Association has been launched for the purpose of acquiring and maintaining, for permanent memorials to the famous author, the properties upon which he spent most of the eighty-four years of his life.

Mr. Richard C. Harlow of State College, Pa., spent six interesting weeks in southern Canada the past summer. He reports good success in collecting, including the finding of some nice sets of the rarer warblers.

By proclamation, the governor of Kentucky has recently set aside "The Old Kentucky Home," at Barstown, Ky., as a permanent sanctuary for bird life. It is a finely wooded tract in which is situated the old colonial mansion in which was written the famous song, "My Old Kentucky Home."

Mr. Herbert L. Stoddard of the Milwaukee Museum, did some intensive field work and collecting in southern Wisconsin during May and June last. A vacation, which came in December, found Mr. Stoddard back in his old tramping grounds among the Indiana Land Dunes of Lake Michigan, where he has made many valuable records in the past.

In mailing out the usual annual circular letter it has been found that, largely due to the good work of our membership teams, the Club membership now lacks but a few names of reaching the 600 mark. The distribution, by states, territories, etc., is as follows: Ala. 2, Alaska 1, Ark. 1, Calif. 19, Canada 14, Colo. 6, Conn. 9, Cuba 2, Del 1, Dist. of Col. 17, Fla. 6, Georgia 7, Idaho 1, Ill. 70, Ind. 21, Iowa 51, Kans. 5, Kentucky 8, La. 6, Maine 3, Mass. 18, Md. 6, Mich. 16, Minn. 9, Miss. 3, Mo. 18, Nebr. (Nebr. Orn. Union) 53, N. Ver. 14, N. York 31, N. Car. 1, N. Dak. 3, Ohio 69, Okla. 2, Ore. 5, Penna. 18, Porto Rico 1, P. I. 1, R. Island 3, S. Car. 3, S. Dak. 7, Tenn. 18, Porto Rico 1, P. I. 1, R. Island 3, S. Car. 3, Wis. 21, Foreign 5. The Bulletin also has a list of subscribers which includes most of the important libraries and museums in the country.

The Secretary is interested in keeping our mailing list correct in every way. If your name is misspelled, or your address incomplete, write him promptly regarding it.

One of the finest collections of Japanese and Oriental bird skins

in this country is that of Mr. Henry K. Coale of Highland Park, Ill. Mr Coale has for years enjoyed the friendship and exchange agreements with some of Japan's best ornithologists. In looking over a part of this collection, the writer noted the firmness of the filling used in these skins and also the brown paper band circling each bird at the breast. The latter one he has put into practice in his own collection and finds it most effective in keeping the wings of large birds close against the body.

The annual meeting of the Wilson Club will be held at Chicago on December 26th and 27th, a circular letter to this effect having been recently sent to all members. We have been accorded the privilege of meeting in the new Field Museum of Natural History and the opening session of the first day has been set at 10 a. m. A committee of our Chicago members have our program in hand and a pleasant and profitable time may be expected. Many matters of importance will be brought up and a large attendance is desired.

The matter of enlarging and improving The Wilson Bulletin will be finally disposed of at the coming meeting. A year ago we stepped up from 32 pages to 48, with illustrations. The expansion has proven entirely inadequate to the care of the meritorious material offered for publication and it is desired that we print 64 pages per issue. Associate members have received for their dollar dues, a book of 200 pages, filled with articles of importance and current items of interest. This may be properly compared with current scientific books of limited circulation, for which a price of five dollars and more is being asked. All dues go into printing and postage; the considerable amount of time devoted to the work by the officers is done gratuitously and with pleasure, for the advancement of ornithology.

PUBLICATIONS REVIEWED

LIFE HISTORIES OF N. A. GULLS AND TERNS

BY A. C. BENT

The same painstaking care exercised in the preparation of the volume on the Alcidae by the same author is evident in this volume too. If one has Ridgway's Birds of North and Middle America for the purely technical matter and Bent's Life Histories in his library he has indeed all that is necessary to gain a complete knowledge of N. A. birds.

We are glad that the author is courageous and independent enough to voice his own personal opinions, whenever they differ from those of the A. O. U. Committee, based of course on weighty evidence and accurate comparison. Such cases for instance are his treatment of Larus vegae, which certainly is not a good species, perhaps not even a sub-species, of Larus nelsoni and Larus barrovianus. We have stated elsewhere years ago that the question is not always whether some of these alleged differences exist but *whether they are worthy of recognition in nomenclature.* Mr. Bent's views on the status of Larus brachyrhynchus have proven true, as the species has subsequently been shown to be only subspecifically distinct from Larus canus. His remarks on Catharacta chilensis and Larus fuscus offluis are likewise sound.

The photos are fine — the only disappointing one being that of the nest of the Ivory Gull, but perhaps it was the only one to be had. The colored plates are excellent. Altogether Mr. Bent's work is a mine of information and "a joy forever." He richly deserves the gratitude of all working ornithologists and more liberal treatment at the hands of the government in the way of paper stock and cover. W. F. H.

BIRD BANDING BY MEANS OF SYSTEMATIC TRAPPING *

BY S. PRENTISS BALDWIN

Until Mr. Baldwin made his first report of progress at one of the A. O. U meetings upon the work that he was doing in trapping and banding, some of us were becoming skeptical about whether the small returns from bird banding as it had been practiced up to that time was worth the cost in time and money. But here was a method which brought results. It opened a field for research which promised large returns, even if pursued independently, but pursued in coöperation with others promised results of inestimable value in the study not only of migration but also of features of the life history of the birds. Mr. Baldwin's banding operations occupied the summer and autumn months at Gates Mill, Ohio, and the late winter months at Thomasville, Georgia, for the years 1914 to 1918; but he is continuing this work at both places since this report was published. The writer has had

the pleasure of visiting the scene of operation at Gates Mill, Ohio, and studying with Mr. Baldwin the actual operations. There is no secret about it. Now that Mr. Baldwin has pointed the way anyone with a fair knowledge of the bird species and an interest in the work sufficient to continue it even when it may cause some inconvenience, can do it and obtain fascinating results. Even one trap is worth operating, but two or three will bring more results. The traps are not expensive, and they will last your lifetime if they are given reasonable care. The writer would like to have north and south lines of bird banders established across Ohio. One natural route would be the Cuyahoga and Muskingum rivers line, another the Sandusky-Scioto rivers line, and still another the Maumee-Miami rivers line. Then there ought also to be lines between these so that any lateral movements could be detected. It is probably true that the largest returns would be wholly local, but there would probably also be satisfactory returns from other trapping and band operations in each line. Any persons who are interested in this kind of work will find Mr. Baldwin entirely willing to give such advice and directions as will help the campaign along. Write him at the Williamson Building, Cleveland, Ohio. L. J.

*Abstract of the Proceedings of the Lincoln Society of New York. For the year ending March 11, 1919. No. 31, 1918-1919. Issued Dec. 23, 1919.

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